Express Mail Label No.	EL863422174US	
		ostal Service "Express Mail Post Office to Addressee" service tant Commissioner for Patents, Box Patent Application,
		Attorney Docket No. 402E-476112US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Ballinger, Marcus D., et al. Art Unit: 1646

Application No.: Herewith INFORMATION DISCLOSURE

STATEMENT UNDER 37 CFR § 1.97 and

Examiner: Brannock, M.

For: HEREGULIN VARIANTS

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

The references cited on attached PTO-1449 and 892 forms are being called to the attention of the Examiner to make of record references cited in parent application USSN 09/101,544 filed July 17, 1998. Pursuant to 37 CFR § 1.98(d), copies of references cited in parent application USSN 09/101,544 filed July 17, 1998 are not provided. However the applicants will gladly provided fresh copies of any references requested by the Examiner. It is respectfully requested that the cited information on the previously submitted 1449 and 892 forms for application USSN 09/101,544 filed July 17, 1998 be expressly considered during the

Application No.: Page 2

prosecution of this application, and that references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that <u>no fee is required</u> for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

Emily M. Haliday

Reg. No. 38,903

QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

P.O. Box 458

Alameda, CA 94501

Tel: (510) 337-7871 Fax: (510) 337-7877



ATTY. DOCKET NO. SERIAL NO. FORM PTO-1449 (Modified) 14918-720-CON2 09/101,544 LIST OF PATENTS AND PUBLICATIONS FOR 402E-476112US Herewith APPLICANT(S)' INFORMATION DISCLOSURE **STATEMENT** (Use several sheets if necessary) APPLICANT Marcus D. Ballinger et al. FILING DATE **GROUP ART UNIT** July 17, 1998 Feb. 22,2092 1646

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	Filing Date If Appropriate
	A1	4,968,603	11/06/90	Slamon et al.	435	6	
	A2	5,183,884	02/02/93	Kraus et al.	536	23.5	•
	A3	5,367,060	11/22/94	Vandlen et al.	530	399	
-	A4						
	A5						
	A6						
	A7						
	A8						
	A9						
	A10						

FOREIGN PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANS	LATN
							yes	no
	B1	444,961 A1	9/4/91	Europe				
	B2	505,148	9/23/92	Europe				
	B3	599,274	6/1/94	Europe				
	B4	WO 92/18627	10/29/92	PCT				

OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)

CI	Ayala et al., "Multiple Alleles," <i>Modern Genetics</i> , Benjamin/Cummings Pub. Co., Menlo Park, CA, 45-48 (1980).
C2	Barbacci et al., "The structural basis for the specificity of epidermal growth factor and heregulin binding," <i>Journal of Biological Chemistry</i> (published erratum appears in <i>J. Biol. Chem.</i> Nov. 24, 1995; 270(47):28494) 270(16):9585-9589 (Apr. 21, 1995).
C3	Bass, et al., "Hormone Phage: An Enrichment Method for Variant Proteins with Altered Binding Properties," Proteins: Structure, Function, and Genetics 8(4):309-314 (1990).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

(Information Disclosure Statement — Section 9 PTO-1449 (Modified) [6-1])

PAGE 1 of 23

52021238.1



FORM	1 PTO-14	49 (Modified)		ATTY. DOCKET N	0.	SE	RIAL NO.	
1.19	ST OF P	ATENTS AND PUBLICATIO	NS FOR	14918-720 CON2		00/1	01,544	
		T(S)' INFORMATION DISCI		400E-476/12 W	5	He	rewitt	, n
		STATEMENT		'		,		
	7 -		•			Ì		
	(L	Ise several sheets if necessary)		APPLICANT		L		
				Marcus D. Ballinger e	t al			
				FILING DATE			OUP ART	UNIT
	·			July 17, 1998 Feb. 23	1,2002	164	6	
							-4	
DEFED	FNCE D	DESIGNATION U.	S DATENT	DOCUMENTS				
TEFER	ENCED	DESIGNATION U.	J	T TOCOMENTS			 	Filing Date
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CL	ASS	Subclass	If
	A11							Appropriate
	A12	 	 	 			 	
	A13	 	 	 			 	
	A14		 		_			
	A15	 	1	 			ļ ———	
	A16							
	A17						 	
	A18							
	A19							
	A20			·				
		FORE	EIGN PATE	NT DOCUMENTS				
		T	<u> </u>		T			TRANSLATN
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CL	ASS	Subclass	IKANSLATN
	<u> </u>							yes no
	B5	WO 92/20798	11/26/92	PCT				<u></u>
	B6	WO 93/22424	11/11/93	PCT .				
	B7	WO 94/00140	1/6/94	PCT				}
	B8	WO 94/04560	3/3/94	PCT			-	<u></u>
		OTHER ART (Inclu	ide Author,	Title, Date, Pertinent Pa	ages, <i>et</i>	c.)		
	C4	Brockes, "Assay and isolation	of glial grow	th factor from the bovine	pituita	гу," М	lethods in	Enzymology
		147:217-225 (1987).		 				
	C5	Brockes et al., "Glial growth fa 20:3:317-322 (1986).	actor-like act	ivity in Schwann Cell tur	nors," A	Annals	of Neurol	ogy
	C6	Brockes et al., "Purification an	•		_	th fac	tor from th	e bovine
	<u> </u>	pituitary," Journal of Biologica	al Chemistry	255(18):8374-8377 (198	30).			
						~		
EXAM		- 14:-1:6 6		DATE CONSIDERED		24k B #	DED (00	D
		nitial if reference considered, value if not in conformance and no						
un vugi	ii Citaliul	i ii not in Comtoi mance ana no	r romanaci ed	. Tuerane coby or mis it	,, ,,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4 HCX	. commun	CAUVII IV

PAGE 2 of 23

Docket No.: 14918-720 CON2

Applicant(s).



FORM	1 PTO-14	149 (Modified)		ATTY. DOCKET NO	. SI	ERIAL NO.	
1 10	TOFP	ATENTS AND PUBLICATION	NC EOD	14918-720 CON2	00	/101,544	
		T(S)' INFORMATION DISCI		1	14916-720 CON2 097101		
ALI	LICAN	STATEMENT	OSURE	402E-476112UL	, 1H	crewith)
					j		
	(L	Ise several sheets if necessary)					
	,	• •		APPLICANT			
				Marcus D. Ballinger et a	al.		
				FILING DATE	G	ROUP ART	UNIT
				July 17, 1998 Feb. 20,	2002 16	46	-
REFER	ENCE D	DESIGNATION U.	S. PATENT	DOCUMENTS		4	
574185	Ţ						Filing Date
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	If Appropriate
	A21		 	 	1	 	1
	A22		<u> </u>		 		
	A23		 			<u> </u>	1
	A24						
	A25						
	A26						
	A27						
	A28		<u> </u>		<u> </u>		
	A29		ļ				<u> </u>
	A30			<u></u>	<u> </u>	<u> </u>	
		FORE	EIGN PATE	NT DOCUMENTS			
EXAM'R	T		<u> </u>				TRANSLATIN
INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	
			<u></u>				yes no
	B9	WO 94/08007	4/14/94	PCT	ļ	ļ	
	B10	WO 94/26298	11/24/94	PCT	ļ	ļ	
	B11	WO 94/28133	12/8/94	PCT	<u> </u>		
	B12	WO 95/32724	12/7/95	PCT	<u> </u>	<u></u>	<u></u>
		OTHER ART (Inclu	ide Author.	Title, Date, Pertinent Pag	es, etc.)		
	C7	Burden et al., "Neuregulins an				rganogenes	is and
		oncogenesis," Neuron 18(6):84	-			-6	
	C8	Burgess et al., "Biosynthetic p			Glycosylat	ion, traffick	ing, and
		regulated cleavage from the ce (1995).	ll surface," J	lournal of Biological Chem	istry 270(32):19188-1	9196
	C9	Callard et al., The Cytokine Fa	ctsbook, Aca	idemic Press, London, p. 3	1 (1994).		
EXAM:	NER			DATE CONSIDERED			
EXAM	INER: I	nitial if reference considered, v	vhether or n	ot citation is in conforma	nce with	MPEP 609;	Draw line
_		n if not in conformance <i>and</i> no	t considered	. Include copy of this for	m with ne	xt commun	ication to
Applica	ınt(s).						

PAGE 3 of 23

52021238.1



FORM	1 PTO-14	49 (Modified)		ATTY. DOCKET NO	. \$	ERIAL NO.		
		ATENTS AND PUBLICATION T(S)' INFORMATION DISCL STATEMENT		1 4918-720 CON 2 402E-476112 US		9/101,544 Herewith		
	(U	se several sheets if necessary)						
				APPLICANT Marcus D. Ballinger et a	1			
				FILING DATE July 17, 1998Feb 22.6		GROUP ART	UNIT	
						-1		
REFER	ENCE D	ESIGNATION U.	S. PATENT	DOCUMENTS	_			
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLAS	S Subclass	Filing If Appro	Date Opriate
	A31							
	A32		 		 		┼	·
	A34	 					 	
	A35				1			
	A36							
	A37		ļ	· -	 		<u> </u>	
	A38	+	 		 		├	
	A40				 		ļ	
		FORE	IGN PATE	NT DOCUMENTS			·	
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	trans	LATN no
	B13	WO 96/31599	10/10/96	PCT	 		yes	110
	B14	WO 96/36720	11/21/96	PCT				
	B15						<u> </u>	
	B16	<u> </u>	<u></u>	<u></u>	<u></u>	<u></u>		
		OTHER ART (Inclu	de Author,	Title, Date, Pertinent Pag	es, etc.)			
<u></u>	C10	Carraway et al., "The erbB3 go 269(19):14303-14306 (1994).	ene product i	s a receptor for heregulin,"	Journal	of Biological	Chemi:	itry
	C11	Carraway, et al., "Neuregulin-2387:512-516 (1997).	2, a new liga	nd of ErbB3/ErbB4-recept	or tyrosin	e kinases," N	ature	
	C12	Chang, et al., "Ligands for Erb 512 (1997).	B-family rec	eptors encoded by a neure	gulin-like	e gene," <i>Natur</i>	e 387::	509-
EVAN	DICC			DATE CONCIDENCE				
EXAM		nitial if reference considered, v	vhether or n	DATE CONSIDERED of citation is in conforma	nce with	MPEP 609:	Draw	line
		n if not in conformance and no						
Applica	ant(s).			• •				

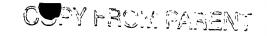
PAGE 4 of 23



FORM	DTO 14	140 () (a4:5a4)		ATTY. DOCKET NO.		SERIAL NO.		
FUKM	1710-14	149 (Modified)		ATTY. DUCKET NO.	3	erial nu.		
		ATENTS AND PUBLICATION		14 918-720 CON 2		9 /101,54 4		
API	LICAN	T(S)' INFORMATION DISCL STATEMENT	·	402E-77611245	H	erewith)	
	Œ	. Jse several sheets if necessary)						
	()	ose several sheets it necessary)		APPLICANT				
				Marcus D. Ballinger et a	l			
				FILING DATE July 17, 1998 Feb. 22, 2		GROUP ART 646	UNIT	
REFER	ENCE I	DESIGNATION U.	S. PATENT	DOCUMENTS		- 4		
EXAM'R		DOOL MENTEN TO ADED	DATE	NAME	CT 4 C	Subclass	Filing	Date
INITIAL	1 41	DOCUMENT NUMBER	DATE	NAME	CLAS	55 .	1 -	priate
	A41		 		<u> </u>		 	
	A43						 	
	A44							
	A45							
	A46						_	
	A47						ļ	
	A49						+-	
	A50		-				1.	
		FORF	EIGN PATE	NT DOCUMENTS				
EXAM'R	T					Subclass	TRANS	LATN
INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLAS	S	yes	no
	B17							
	B18							
	B19						<u> </u>	
	B20			· · · · · · · · · · · · · · · · · · ·			<u> </u>	
				Title, Date, Pertinent Page				
	C13	Chau, B. N. et al., "The EGF F	•	Ų .		•		
		by Heregulin Residue Glutama 886 (1996).						
	C14	Chu et al., "Regulation of the a model for transynaptic gene re	gulation," Ne	euron 14(2):329-339 (Feb.	1995).			
	C15	Corfas & Fischbach, "The num vitro model for acetylcholine r						
EVANO	DIED			DATE CONCIDERED				
EXAM		nitial if reference considered, v	vhether or n	DATE CONSIDERED	nce with	MPEP 600.	Draw	line
		n if not in conformance <i>and</i> no						
Annlica				- •				

PAGE 5 of 23

52021238.1



FORM PTO-1449 (Modified)	ATTY. DOCKET NO.	SERIAL NO.
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT(S)' INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	1 4918-720 CON2 402E-476112 US	09/101,544 Herewith
	APPLICANT Marcus D. Ballinger et al. FILING DATE July 17, 1998 Feb 22,2002	GROUP ART UNIT 1646

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	Filing Date If Appropriate
	A51					T	
	A52						
	A53						
	A54						
	A55			_			
	A56						
	A57				T		
	A58						
	A59						
	A60						

FOREIGN PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANS	LATN
		·					yes	no
	B21							
	B22							
	B23							
	B24							

OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)

C16	Cunningham et al., "High Resolution Epitope Mapping of hGH-Receptor Interactions by Alanine-
010	Scanning Mutagenesis," Science 244:1081-1085 (June 1989).
C17	Cunningham et al., "Production of an Atrial Natriuretic Peptide Variant that is Specific for Type A
	Receptor," EMBO Journal 13(11):2508-2515 (1994).
C18	Cwirla et al., "Peptides on phage: a vast library of peptides for identifying ligands," Proc. Natl. Acad.
	Sci. USA 87(16):6378-6382 (1990).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

(Information Disclosure Statement - Section 9 PTO-1449 (Modified) [6-1])

PAGE 6 of 23



FORM	1 PTO-14	49 (Modified)		ATTY. DOCKET NO	Э.	SEI	UAL NO.		
7 70	T OF D	ATENTS AND PUBLICATION	NC EOD	14918-720 CON2	l	004	01_544		
		T(S)' INFORMATION DISCL		400E-476112U	_ ا		01,544 erewit	4	
7 *** 7	DICIE	STATEMENT	Jooona	700L 716112U	3	, , ,	0,0011		
	(U	se several sheets if necessary)		1777761377					
				APPLICANT Marcus D. Ballinger et	a 1				
		•		FILING DATE	<u>aı.</u>	GRO	OUP ART	INIT	
				July 17, 1998 Feb 22,2002 1646					
***********				<u> </u>			•		
					•				
REFER	ENCE D	ESIGNATION U.	S. PATENT	DOCUMENTS	~ ~			T	
EXAM'R	·	DOOLINGS ALL ADED	DATE	NAME	CT	ASS	Subclass	Filing Date	
INITIAL		DOCUMENT NUMBER	DATE	NAME		——— ———		Appropriate	
	A61		ļ					ļ	
	A62		ļ	<u> </u>	4_				
	A63		ļ				<u> </u>	ļ	
	A64		ļ	ļ					
	A65	 	 	ļ				ļ	
	A67	 	 	ļ	+				
	A68		 	ļ	+			 	
	A69	 	 -	 	+-			<u> </u>	
	A70	 	-	 	+				
			<u> </u>	<u></u>				<u></u>	
		FORE	IGN PATE	NT DOCUMENTS					
EXAM'R						CLASS	Subclass	TRANSLAT'N	
INITIAL	j	DOCUMENT NUMBER	DATE	COUNTRY	CLA	ASS	Subclass		
	B25							yes no	
	B26	 		<u> </u>	+-				
	B27	 		 	+-				
	B28			<u> </u>	 				
			است	<u></u>		<u>—</u> 1			
						•			
		OTHER ART (Inclu	de Author,	Title, Date, Pertinent Pa	ges, etc	:.)			
	C19	Danilenko et al., "Neu differen				igratic	n and diffe	rentiation	
		in excisional wounds," FASEB							
	C20	Falls et al., "ARIA, a Protein T		es Acetylcholine Receptor	r Synth	esis, is	s a Membe	r of the Neu	
	621	Ligand Family," Cell 72:801-8		i II Doubenskie Com	C-		- Wish To-		
	C21	Friess et al., "Enhanced erbB-3 Progression," Clinical Cancer			cer Co	relate	s with 1th	nor	
	1	Trogression, Chineur Cunter	Research 1.1	113-1420 (1773).					
EXAM	INEP		 -	DATE CONSIDERED					
		nitial if reference considered, v	vhether or n		ance w	ith M	PEP 609:	Draw line	
		if not in conformance and not							
Applica									

PAGE 7 of 23

52021238.1



FORM	1 PTO-14	49 (Modified)		ATTY. DOCKET N	0.	SEI	RIAL NO.	
LIS	ST OF PA	ATENTS AND PUBLICATION T(S)' INFORMATION DISCL STATEMENT		14 918-720 CON 2 402E - 47611J	us		01,5 44 Lrewit	h
		STATEMENT						
•	(U	Ise several sheets if necessary)						
				APPLICANT Marcus D. Ballinger et	1			
				FILING DATE	1 41	GRO	OUP ART	IINIT
				July 17, 1998 Feb 22, 2002 1646				
							-1	
REFER	ENCE D	DESIGNATION U.	S. PATENT	DOCUMENTS				
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	SS	Subclass	Filing Date If Appropriate
	A71							
	A72		ļ					
	A73		ļ					<u> </u>
	A74	 		 				
	A76	 	 		_			
	A77		 	 	+			
	A78		 					
	A79		 					
	A80				_			
EXAM'R INITIAL		FORE DOCUMENT NUMBER	IGN PATE	NT DOCUMENTS COUNTRY	CLA	ss	Subclass	TRANSLAT'N
								yes no
	B29	 		<u> </u>				ļ
	B30 B31	 						
	B32							
	1 252	OTHER ART (Inclu	de Author. '	Fitle, Date, Pertinent Pa	ges. etc.	<u>.</u> \		<u>L</u>
_===	C22	Gorman et al., "Transient Prod					ed Cell Lin	e," DNA
		Prot. Eng. Tech. 2(1):3-10 (19)		<i>J</i>				,
	C23	Ho, W., et al., "Sensory and M 270(24):14523-14532 (1995).				•		
	C24	Holmes et al., "Identification o (1992).	f heregulin,	a specific activator of p18	35 ^{c1082} Sc	ience	256:1205 ————	-1210
TOTAL C	DIES			DATE COMOTERES				
EXAM		nitial if vaforance considered	hother or -	DATE CONSIDERED		th M	DED 600.	Draw line
		nitial if reference considered, was if not in conformance and not						
Applica		como mance ana no	. Tomoradi Cu	·		vat		

PAGE 8 of 23



FORM PTO-1449 (Modified)	ATTY. DOCKET NO.	SERIAL NO.
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT(S)' INFORMATION DISCLOSURE STATEMENT	1 4918-720 CON 2 402E - 47611J-US	09 /101,544 Herewith
(Use several sheets if necessary)		
	APPLICANT	
	Marcus D. Ballinger et al.	
	FILING DATE	GROUP ART UNIT
	July 17, 1998 Feb. 22,2002	1646
		٠,

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	Filing Date If Appropriate
	A81						
	A82						
	A83					}	
	A84						
	A85						
	A86						
	A87						
	A88						
	A89						
	A90		<u> </u>				<u> </u>

FOREIGN PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANS	LATN
		1					yes	no
	B33							
	B34							
	B35							
	B36							

OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)

C25	Jacobsen et al., "High-Resolution Solution Structure of the EGF-like Domain of Heregulin-α"
	Biochemistry 35(11):3402-3417 (1996).
C26	King et al., "Ligand-independent tyrosine phosphorylation of EGF receptor and the erbB-2/neu proto- oncogene product is induced by hyperosmotic shock" <i>Oncogene</i> 4(1):13-18 (1989).
C27	Kokai et al., "Synergistic Interaction of p185c-neu and the EGF Receptor Leads to Transformation of Rodent Fibroblasts," Cell 58:287-292 (1989).

EXAMINER DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

(Information Disclosure Statement — Section 9 PTO-1449 (Modified) [6-1])

PAGE 9 of 23

52021238.1

FORM PTO-1449 (Modified)	ATTY. DOCKET NO.	SERIAL NO.
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT(S)' INFORMATION DISCLOSURE STATEMENT	1 4918-720 CON2 402E-476112US	09/101,54 4 Herewith
(Use several sheets if necessary)	APPLICANT	
	Marcus D. Ballinger et al.	
	FILING DATE July 17, 1998Feb 22,2002	GROUP ART UNIT 1646
		4

REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	Filing Date If Appropriate
	A91						
	. A92						
	A93						T
	A94						
	A95						
	A96						
	A97						
	A98						
	A99	-					
	A100						

FOREIGN PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANS	LATN
							yes	no
	B37							
	B38							·
	B39							
	B40							

OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)

C28	Kraus et al., "Demonstration of ligand-dependent signaling by the erbB-3 tyrosine kinase and its constitutive activation in human breast tumor cells," <i>Proc. Natl. Acad. Sci.</i> 90:2900-2904 (1993).
C29	Kraus et al., "Isolation and characterization of ERBB3, a third member of the ERBB/epidermal growth factor receptor family: Evidence for overexpression in a subset of human mammary tumors," <i>Proc. Natl. Acad. Sci. USA</i> 86:9193-9197 (1989).
C30	Kunkel et al., "Rapid and Efficient Site-Specific Mutagenesis Without Phenotypic Selection," Methods in Enzymology 154:367-382 (1987).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

FORM	PTO-1449	(Modified)		ATTY. DOCKET N	Ю.	SER	IAL NO.	
		ENTS AND PUBLICATION S)' INFORMATION DISCL STATEMENT		14 918-720 CON 2 402E-47610	us	09/11 He	11,544 vewith	1
	(Use	several sheets if necessary)		A DDI ICANIT				
			APPLICANT Marcus D. Ballinger et al.					
			FILING DATE July 17, 1998 Feb. 3			OUP ART U	TIM	
EFERE EXAM'R INITIAL	ENCE DE	DOCUMENT NUMBER	S. PATENT	DOCUMENTS	CL	ASS.	Subclass	Filing Date If Appropriate
EXAM'R					CL	ASS.	Subclass	
EXAM'R	A101 A102				CL	ASS	Subclass	If
EXAM'R	A101				CL	ASS	Subclass	If
EXAM'R	A101 A102				CL	ASS	Subclass	If
EXAM'R	A101 A102 A103 A104 A105				CL	ASS	Subclass	If
EXAM'R	A101 A102 A103 A104 A105 A106				CL	ASS	Subclass	If
EXAM'R	A101 A102 A103 A104 A105 A106 A107				CL	ASS	Subclass	If
EXAM'R	A101 A102 A103 A104 A105 A106				CL	ASS	Subclass	If

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	ranslath yes no
****	B41						
	B42						
	B43	·					
	B44						

OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)

C	C31	Lee et al., "Assignment of Heregulin (HGL) to Human Chromosome 8p22-p11 by PCR Analysis of Somatic Cell Hybrid DNA," <i>Genomics</i> 16:790-791 (1993).
C	C32	Lemke & Brockes, "Identification and purification of glial growth factor," J. Neurosci. 4(1):75-83 (1984).
С	C33	Lemoine et al., "The erbB-3 gene in human pancreatic cancer," J. Pathol. 168:269-273 (1992).

DATE CONSIDERED **EXAMINER**

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

(Information Disclosure Statement — Section 9 PTO-1449 (Modified) [6-1])

52021238.1

Docket No.: 14918-720 CON2

PAGE 11 of 23

FORM	PTO-14	49 (Modified)		ATTY. DOCKET NO). T	SERL	AL NO.	
		ATENTS AND PUBLICATION		1 4918-720 CON 2		09/101	,544 /ewi`	И
AFI	LICAN	I(S)' INFORMATION DISCI STATEMENT	COSURE	402E-4761124		461	rewi	(7)
	(U	se several sheets if necessary)						
				APPLICANT				
		,		Marcus D. Ballinger et FILING DATE		GPOI	JP ART U	INIT
				July 17, 1998 Feb. 22	2002	1646	T AKI (
REFER	ENCE D	ESIGNATION U.	S. PATENT	DOCUMENTS				
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	ASS Subclass		Filing Date If Appropriate
	A111							
	A112				<u> </u>			
	A113	ļ	ļ					
	A114	<u> </u>	ļ	<u> </u>	+			
	A115		ļ					
	A116	 			 			
	A117		 					
	A119		 	 	 			
	A120		 		+			
	11120	FORE	EIGN PATE	NT DOCUMENTS				<u></u>
	T	T			T			TRANSLATN
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLAS	ss s	ubclass	TOTALLATIV
	DAG		ļ		 	_ _		yes no
	B45		ļ			 ∤	•	
	B46 B47	 						
	B48				 			
	D40	OTHER ART (Inch	ide Author 3	Title, Date, Pertinent Pa	nos etc.)			
	C34	Lemoine et al., "Expression of					ncar 66:1	116 1121
		(1992).						
	C35	Levi et al., "The Functional Cl						
		after Transplantation into a Ga (1994).						
1	C36	Lewis et al., "Growth Regulation of Human Breast and Ovarian Tumor Cells by Heregulin: Evider for the Requirement of ErbB2 as a Critical Component in Mediating Heregulin Responsiveness,"						
		Cancer Research 56:1457-146		component in Mediating	Heregulu	n Kesp 	onsivene	ess,
EXAM			I	DATE CONSIDERED				
		itial if reference considered, v						
_		if not in conformance and no	t considered.	Include copy of this for	rm with	next c	ommuni	cation to
Applica	m(S).							

PAGE 12 of 23

52021238.1



FORM PTO-1449 (Modified) ATTY. DOCKET NO. SERIAL NO. 14918-720 CON2-09/101;544~ LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT(S)' INFORMATION DISCLOSURE 402E-476/1245 Herewith **STATEMENT** (Use several sheets if necessary) APPLICANT Marcus D. Ballinger et al. **GROUP ART UNIT** FILING DATE -July 17, 1998 RbJ2, InJ 1646 REFERENCE DESIGNATION U.S. PATENT DOCUMENTS Filing Date EXAM'R Subclass DOCUMENT NUMBER DATE **NAME CLASS** INITIAL Appropriate A121 A122 A123 A124 A125 A126 A127 A128 A129 A130 FOREIGN PATENT DOCUMENTS TRANSLATN EXAM'R Subclass DOCUMENT NUMBER DATE COUNTRY **CLASS** INITIAL no yes **B49** B50 B51 B52 OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C37 Li et al., "Identification of Gas6 as a Growth Factor for Human Schwann Cells," Journal of Neuroscience 16(6):2012-2019 (1996). Lowman et al., "Selecting High-Affinity Binding Proteins by Monovalent Phage Display," Biochemistry C38 30:10832-10838 (1991). C39 Lu et al., "Post-translational processing of Membrane-associated neu Differentiation Factor Proisoforms Expressed in Mammalian Cells," Journal of Biological Chemistry 270(9):4775-4783 (1995). DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

(Information Disclosure Statement - Section 9 PTO-1449 (Modified) [6-1])

PAGE 13 of 23

52021238.1

FORM PTO-1449 (Modified) ATTY. DOCKET NO. SERIAL NO. LIST OF PATENTS AND PUBLICATIONS FOR 14918-720-CON2 09/101,544 Herewith APPLICANT(S)' INFORMATION DISCLOSURE 402E-476112US **STATEMENT** (Use several sheets if necessary) **APPLICANT** Marcus D. Ballinger et al. **GROUP ART UNIT** FILING DATE -July 17, 1998 Feb 22, 2002 164 REFERENCE DESIGNATION U.S. PATENT DOCUMENTS Filing Date EXAM'R Subclass DATE **CLASS** DOCUMENT NUMBER NAME INITIAL Appropriate A131 A132 A133 A134 A135 A136 A137 A138 A139 A140 FOREIGN PATENT DOCUMENTS TRANSLATN EXAM'R Subclass **DOCUMENT NUMBER** DATE **COUNTRY CLASS** INITIAL. yes no B53 **B54** B55 **B56** OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C40 Marchionni et al., "Glial growth factors are alternatively spliced erbB2 ligands expressed in the nervous system," Nature 362:312-318 (1993). Meyer & Birchmeier, "Distinct isoforms of neuregulin are expressed in mesenchymal and neuronal cells C41 during mouse development," Proc. Natl. Acad. Sci. 91:1064-1068 (1994). C42 Nagata et al., "Solution structure of the epidermal growth factor-like domain of heregulin-α, a ligand for p180^{erbB-4}" EMBO J. 13(15):3517-3523 (1994). DATE CONSIDERED **EXAMINER** EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

(Information Disclosure Statement — Section 9 PTO-1449 (Modified) [6-1])

PAGE 14 of 23

52021238.1

CODM	FORM PTO-1449 (Modified)			ATTY. DOCKET NO. SERIAL NO.				
FURM	P10-144	19 (Modified)		ATTI. DOCKET NO.	J.	azaz ivo.		
LIS	T OF PA	TENTS AND PUBLICATION	IS FOR	14 918-720 CON 2)1,54 4		
APP	LICANT	(S)' INFORMATION DISCL	OSURE	402E-476112US	He	rewit	ħ	
		STATEMENT						
	(116	se several sheets if necessary)						
	(0.	se several sheets it heccessify		APPLICANT	I			
				Marcus D. Ballinger et al				
				FILING DATE GROUP ART UNIT				
				July 17, 1998 Feb. 22,	20e2 1640) <u> </u>		
REFER	ENCE D	ESIGNATION U.S	S. PATENT	DOCUMENTS				
						Subclass	Filing Date	
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	Appropriate	
·	A141							
	A142							
	A143				_			
	A144							
	A145				•			
<u>-</u>	A147							
	A148							
	A149							
	A150							
		FORE	IGN PATE	NT DOCUMENTS				
EXAM'R		DOCUMENT MUMBER	DATE	COUNTRY	CLASS	Subclass	TRANSLATN	
INITIAL		DOCUMENT NUMBER	DATE	COUNTRI	CLASS		yes no	
	B57							
	B58							
	B59							
	B60						<u></u>	
		OTHER ART (Inclu	de Author,	Title, Date, Pertinent Page	es, etc.)			
	C43	Parmley et al., "Antibody-selection of the Parmley et al., "Antibody	ctable filame	ntous fd phage vectors: affi	nity purific	ation of tai	get genes,"	
	C44	Peles et al., "Cell-type specific	interaction o	of Neu differentiation factor	(NDF/her	egulin) wit	h Neu/HER-	
	U11	2 suggests complex ligand-rece	eptor relation	nships," <i>EMBO Journal</i> 12(3):961-971	(1993).		
,	C45	Peles et al., "Isolation of the N Differentiation of Mammary T	eu/HER-2 St	imulatory Ligand: a 44 Kd	Glycoprote	in That Inc	luces	
		Differentiation of Manufally 1	unioi CCII3,	Con 07(1).205-210 (1772)	· 			
EXAM	INFP			DATE CONSIDERED				
EXAM	INER: I	nitial if reference considered, v	vhether or n		nce with M	PEP 609;	Draw line	
through	h citation	if not in conformance and no	t considered	. Include copy of this form	n with nex	t commun	ication to	
Applica								
/T C		1 C 4 C 1 0 1	DTC 1440 ()	4~4:6~4) [K 1])		D,	AGE 15 of 23	

52021238.1



FORM	PTO-14	49 (Modified)		ATTY. DOCKET NO.		SER	IAL NO.		
1 10	TOFP	ATENTS AND PUBLICATION	NC EOD	14918-720 CON2-	1.	00/10) 1,54 4		
•		Γ(S)' INFORMATION DISCI		1	- 1	מונט מונ	rewit	4	
		STATEMENT	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	402E-4761124	۱ ۱	Herewin			
					ĺ				
	(U	se several sheets if necessary)		- 1 DDV 10 1 VIII					
				APPLICANT Marcus D. Ballinger et a	1				
				FILING DATE		GRO	OUP ART UNIT		
			í	-July 17, 1998 Feb. 22, 3		1646			
		•		ч					
REFER	ENCE D	ESIGNATION U.	S. PATENT	DOCUMENTS					·
EXAM'R		DOCKE (EVEN ALL (DED	2 4 772	274.245	07.4		Subclass	Filing If	Date
INITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	.55			priate
	A151		L			_			
	A152	ļ	ļ		ļ				
	A153		 						
	A154		 		<u> </u>				
	A156		 		<u> </u>				
	A157	 	 		 	\dashv			
	A158	 	 		 -	\dashv			
	A159		 						
	A160		 			\neg			
		FORE	IGN PATEN	T DOCUMENTS					
EXAM'R	İ	DOCUMENTAL MADED	DATE	COLDITON	CLASS		Subclass	TRANSLAT'N	
INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLAS	55		Vec	
	B61		 			\dashv		yes	_no
	B62	 	 			-+			
	B63					\dashv			
	B64								
	-1								
				itle, Date, Pertinent Page					
	C46	Pinkas-Kramarski et al., "Brain					factor/here	gulin:	A
	0.15	survival factor for astrocytes,"							
	C47	Plowman et al., "Heregulin inc		phosphorylation of HER4	/p180	1	<i>vature</i> (Le	tters to)
Nature) 366:473-475 (Dec. 2, 1993). C48 Plowman et al., "Ligand-specific activation				of HER4/p180erbB4 a fourt	h memi	her o	f the enide	rmal	
growth factor receptor family," <i>Proc. Natl.</i>							i ine opide		
EXAMI	NER			DATE CONSIDERED			=		
		itial if reference considered, v	vhether or no	ot citation is in conformat	ice wit	h MI	PEP 609;	Draw	line
through	ı citation	if not in conformance and no							
Applica	nt(s).								

PAGE 16 of 23

52021238.1

FORM	PTO-14	49 (Modified)		ATTY. DOCKET NO.		SEF	UAL NO.		
1 10	TOFDA	TENTS AND PUBLICATION	IS FOR	14918-720-CON2		09/11	01_544_		
		Γ(S)' INFORMATION DISCL		ll .	,	11/	01,544 Erewiz	4	
ALI	DICHI	STATEMENT	00010	402E-4761124	1	Herewitt			
	(U	se several sheets if necessary)							
				APPLICANT					
				Marcus D. Ballinger et a	1.				
				FILING DATE	2 2 2		OUP ART I	JNIT	
				July 17, 1998 Feb 22, 2002 1646.					
DEEED	ENCE D	ESIGNATION U.S	C DATENT	DOCUMENTS					
REFER	ENCED	LSIGNATION U.	I AIENI	DOCUMENTS				Filing	Date
EXAM'R		DOCUMENT NUMBER	DATE	NAME	CL	ASS	Subclass	If	20.0
INITIAL		BOCOMENT NOMBER	DATE					Appro	priate
	A161				 				
	A162								
	A163							 	
	A164		-		-			-	
	A165				 			-	
	A167				 				
	A168				 				
	A169				\vdash				
	A170								
	1		l	<u> </u>				<u> </u>	
		FORE	IGN PATE	NT DOCUMENTS					
								TRANSLATN	
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLA	SS	Subclass		
	<u> </u>							yes	no
	B65								
	B66							<u> </u>	
	B67				ļ				
	B68	<u> </u>			<u> </u>				
		OTHER ART (In also	da Austran 1	File Data Bartinant Dag	on ata				
	C49	Poller et al., "Production and c		Fitle, Date, Pertinent Pag			R-3 proteir	٠.	
	C49	examination of c-erbB-3 protein							1
	C50	Puddicombe et al., "The Signif							··
	0.50	Growth Factor α " Journal of B			-	_		5	
	C51	Rajkumar et al., "Expression o					rs determin	ed by	
		monoclonal antibody RTJ1," P							
EXAM	INER			DATE CONSIDERED					
EXAM	INER: In	nitial if reference considered, v	vhether or n	ot citation is in conforma	nce w	ith M	PEP 609;	Draw	line
through	h citation	if not in conformance and no	t considered.	. Include copy of this for	m wit	h nex	t communi	ication	to
Applica	ant(s).								

PAGE 17 of 23

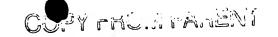
52021238.1

FORM PTO-1449 (Modified) ATTY. DOCKET NO. SERIAL NO. 14918-720-CON2 LIST OF PATENTS AND PUBLICATIONS FOR 09/101,544 Herewith APPLICANT(S)' INFORMATION DISCLOSURE 402E-476112US **STATEMENT** (Use several sheets if necessary) APPLICANT Marcus D. Ballinger et al. FILING DATE **GROUP ART UNIT** July 17, 1998 Feb. 22, 202 1646. REFERENCE DESIGNATION U.S. PATENT DOCUMENTS Filing Date Subclass DOCUMENT NUMBER DATE **NAME** CLASS INITIAL Appropriate A171 A172 A173 A174 A175 A176 A177 A178 A179 A180 FOREIGN PATENT DOCUMENTS TRANSLATN EXAM'R Subclass DOCUMENT NUMBER **DATE COUNTRY CLASS** INITIAL yes no **B69** B70 B71 B72 OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C52 Sadick et al., "Analysis of Heregulin-Induced ErbB2 Phosphorylation with a High-Throughput Kinase Receptor Activation Enzyme-Linked Immunosorbant Assay," Analytical Biochemistry 235:207-214 C53 Sambrook et al., "Small-scale Preparations of Single-stranded Bacteriophage M13 DNA," Molecular Cloning: A Laboratory Manual, 2nd ed., New York: Cold Spring Harbor Laboratory Press, 1:4.29-4.30 Sanger et al., "DNA Sequencing with Chain-terminating Inhibitors," Proc. Natl. Acad. Sci. USA C54 74(12):5463-5467 (1977). **EXAMINER** DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).

52021238.1

Docket No.: 14918-720 CON2

(Information Disclosure Statement — Section 9 PTO-1449 (Modified) [6-1])



FORM	PTO-144	9 (Modified)		ATTY. DOCKET NO.	SEI	NIAL NO.		
1 107	ተ ጣዊ ወል	TENTS AND PUBLICATION	IS FOR	14 918-720 CON 2	09/1	01,544		
		(S)' INFORMATION DISCL		462E-47611245		rewit	1	
ALL	DICILIA	STATEMENT		7022 1.0110	146	rewit	^	
	(Us	e several sheets if necessary)						
				APPLICANT	n e			
				Marcus D. Ballinger et al FILING DATE		OUP ART	INIT	—
				July 17, 1998 Feb. 22,3			01111	
						-1		
REFERI	ENCE DI	ESIGNATION U.S	S. PATENT	DOCUMENTS				
	T					6.1.1	Filing D	ate
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	Appropr	riate
	A181				· .			
	A182							
	A183							
	A184							
	A185							
	A186							
	A187							
	A188		<u> </u>					
····	A189						<u> </u>	
··	A190				<u> </u>	L		
		FORE	IGN PATE	NT DOCUMENTS				
EXAM'R					CY 4 CC	Subclass	TRANSLA	TN
INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subcluss	100	
	7.72						yes	no
	B73	ļ				 	 	
	B74					 	-	
	B76							
	1	OTHER ART (Inclu	de Author,	Title, Date, Pertinent Pag	es, etc.)			
	C55	Sanidas et al., "Expression of	he c-erbB-3	gene product in gastric can	cer," Int. J.	Cancer 54	:935-940)
		(1993).				-		
	C56	Scott et al., "Searching for Per	tide Ligands	with an Epitope Library,"	Science 24	9:386-390	(1990).	- 40
	C57	Sklar et al., "A Novel Growth	Factor for M	uscle-rhGGF2," J. Cell Bio	chem. (abs	tract noW	462) p. 3)40
		(1994).						
				DATE CONCIDENCE				
EXAM	INER	nitial if reference considered, v	whather or =	DATE CONSIDERED	nce with N	1PEP 600.	Draw li	ine
EXAM.	INEK: It b citation	itial it reference considered, v if not in conformance <i>and</i> no	vueuuer or n t considered	l. Include copy of this for	m with ne	t commun	ication	o
Applied		ii not in comormance ana no	. consider cu					

PAGE 19 of 23

52021238.1



EODM	ORM PTO-1449 (Modified)			ATTY. DOCKET NO.	o. s		SERIAL NO.				
FURM	P10-144	ty (Modified)		ATTI. DOCKET NO.	}	SEF	dal no.				
LIS	T OF PA	TENTS AND PUBLICATION	NS FOR	14918-720 CON2			01,544				
APP	LICANI	(S)' INFORMATION DISCL	OSURE	402E-476112L	5	Herewith					
		STATEMENT		10-		•					
	Œ	se several sheets if necessary)									
	(0.	o soverar snoots it noodssary,		APPLICANT							
				Marcus D. Ballinger et al	l						
				FILING DATE			OUP ART I	JNIT			
				July 17, 1998 Feb. 22, 2002 1646.							
REFER	ENCE D	ESIGNATION U.	S. PATENT	DOCUMENTS							
EXAM'R							Subclass	Filing If	Date		
INITIAL		DOCUMENT NUMBER	DATE	NAME	CL	ASS	Succiass	Appro	priate		
	A191	·									
	A192							ļ			
	A193										
	A194										
	A193				 						
	A197										
	A198										
	A199										
	A200										
		FORE	IGN PATE	NT DOCUMENTS							
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS		CLAS		Subclass	TRANSI	MTA
								yes	no		
	B77										
	B78			· · · · · · · · · · · · · · · · · · ·							
	B79						·				
	B80	OTHER ART (Inclu	do Author 7	Fitle, Date, Pertinent Page	os ata	<u> </u>	 				
	C58	Slamon et al., "Human Breast					mplification	n of th	<u></u> -		
		HER-2/neu Oncogene," Science	e 235:177-18	82 (1987).							
	C59	Slamon et al., "Studies of the I Science 244:707-712 (1989).		-							
	C60	Sliwkowski et al., "Coexpressi for Heregulin," Journal of Bio					gh Affinity	Recept	or		
EXAM				DATE CONSIDERED							
EXAM through Applica	h citation	itial if reference considered, v if not in conformance <i>and</i> no	vhether or no t considered.	ot citation is in conformand. Include copy of this form	nce w m wit	ith M h nex	PEP 609; t commun	Draw ication	line to		
PP	(-).										

PAGE 20 of 23

52021238.1



	FORM PTO-1449 (Modified)			LAMBIA DO CAMPANO LA CODIANA N				
FORM	PTO-14	49 (Modified)		ATTY. DOCKET NO.	18	ERIAL NO.		
1 10	TOFPA	TENTS AND PUBLICATION	S FOR	14918-720-CON2-	0	97 101,544 -		
		Γ(S)' INFORMATION DISCL	-	401E-4761124		Herewith		
****	DICIE	STATEMENT	000112	9015-9101120	1	Herew.	' 7	
	(U	se several sheets if necessary)		[ļ			
				APPLICANT				
				Marcus D. Ballinger et a	l			
				FILING DATE		GROUP ART	UNIT	
				July 17, 1998 Teb 22,	2007 1	646_		
REFER	ENCE D	ESIGNATION U.S	S. PATENT	DOCUMENTS				
							Filing	Date
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLAS	S Subclass	If Appro	priate
	A201		 				1	
	A202							
	A203						†	
	A204						 	
	A205							
	A206	_ 					 	
	A207							
	A208							
	A209							
	A210							
		FORE	IGN PATE	NT DOCUMENTS				
EXAM'R	T	DOCUMENT NUMBER	DATE	COUNTRY	CLAS	Subclass	TRANSLAT'N	
INITIAL		DOCOMENT NOMBER	DAIL	COONTRI	CLAS	3	yes	no
	B81	 					1,00	110
	B82	 					$\vdash \lnot$	
	B83						 	
	B84							
		OTHER ART (Inclu	de Author.	Title, Date, Pertinent Pag	es. etc.)			
	C61	Smith, "Filamentous Fusion Ph				loned Antigen	s on the	
	001	Virion Surface," Science 228 (•	•		g		
	C62	Souriau et al., "A simple lucife			ty detect	ion of epiderr	nal gro	wth
		factor displayed on phage," Nu				•		
	C63	Stern et al., "EGF-stimulated ty				nodel for rece	ptor	
		interactions," EMBO Journal 7	(4):995-100	1 (1988).				
EXAM				DATE CONSIDERED				
		nitial if reference considered, w						
_		if not in conformance and not	considered.	. Include copy of this for	n with r	iext commun	ication	το
Applica							0000	
(Inform	ation Dis	closure Statement — Section 9 F	'1'O-1449 (N	loditied) [6-1])		PA	AGE 21	OI 23

52021238.1

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT(S)' INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary) APPLICANT Marcus D. Ballinger et al. FILING DATE 1046_ REFERENCE DESIGNATION U.S. PATENT DOCUMENTS EXAMP NOTIAL A211 A212 A213 A214 A215 A216 A216 A217 A218 A219 A220 FOREIGN PATENT DOCUMENTS CLASS Subclass Filing Date If Appropriate Appropriate Appropriate Foreign PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS CLASS Subclass TANSLATN yes no OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C64 Tablar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wene et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s). (Information Disclosure Statement — Section 9 PTO-1449 (Modified) [6-1]) PAGE 22 of 2	FORM	PTO-144	9 (Modified)		ATTY. DOCKET NO	. SEF	UAL NO.			
APPLICANT Marcus D. Ballinger et al. FILING DATE July 17, 1998 Record REFERENCE DESIGNATION U.S. PATENT DOCUMENTS EXAMPRE NAME DOCUMENT NUMBER DATE NAME CLASS Subclass Filing Date If Appropriate Puly 17, 1998 Record If Appropriate FOREIGN PATENT DOCUMENTS FULL PATENT PATENT DOCUMENTS FILING PATENT DOCUMENTS F			(S)' INFORMATION DISCL			09/14 He	09/101,544 Herewith			
Marcus D. Ballinger et al. FILING DATE July 17, 1998 Feb. 22, 2022 REFERENCE DESIGNATION U.S. PATENT DOCUMENTS BANKE DOCUMENT NUMBER A211 A211 A212 A213 A214 A215 A216 A217 A218 A218 A219 A220 FOREIGN PATENT DOCUMENTS CLASS Subclass TRANSLATN YES NO Y		(Us	e several sheets if necessary)				<u> </u>			
FILING DATE 41/17, 1998 Feb. 23, 2412 GROUP ART UNIT 1646. REFERENCE DESIGNATION U.S. PATENT DOCUMENTS EXAMPR NITIAL A211 A211 A212 A213 A214 A215 A216 A217 A218 A219 A219 A219 A219 A210 DOCUMENT NUMBER DATE FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS Subclass Filing Date If Appropriate II Appropriate II Appropriate A218 A219 A218 A219 A219 A219 A219 A220 TOTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) OTHER ART (Include A					II					
REFERENCE DESIGNATION U.S. PATENT DOCUMENTS EXAMPR Normal Nor					1		TID ADT	INIT		
DOCUMENT NUMBER DATE NAME CLASS Subclass Filing Date If Appropriate A211 A212 A213 A214 A215 A216 A216 A217 A218 A218 A219 A220					July 17, 1998 Feb 22	. 2002 164		ONII		
DOCUMENT NUMBER DATE NAME CLASS Subclass If Appropriate	REFER	ENCE D	ESIGNATION U.:	S. PATENT	DOCUMENTS					
A212			DOCUMENT NUMBER	DATE	NAME	CLASS	Subclass	If	If	
A213 A214 A215 A216 A217 A218 A218 A219 A220 FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS TRANSLATN yes no B85 A86 A87 A886 A887 A888 A888 A888 A888 A		A211								
A215 A216 A217 A218 A219 A220 FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS BASS BASS BASS BASS BASS BASS BASS	-	A212						<u> </u>		
A215 A216		A213					L			
A216 A217 A218 A219 A220		A214						ļ		
A217 A218 A219 A220 FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS BASS B86 B87 B88 B88 B87 B88 C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 reu Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		A215	·					<u> </u>		
A219		A216					ļ	ļ		
RA219 RA220 RA22		A217	·					↓		
FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS Subclass TRANSLATN	•	A218				ļ		<u> </u>		
FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS Subclass TRANSLATN yes no		A219						ļ		
DOCUMENT NUMBER DATE COUNTRY CLASS Subclass Yes no B85		A220					<u></u>	<u> </u>		
B85 DOCUMENT NUMBER DATE COUNTRY CLASS Subclass yes no B86 B87 B88 B88 B88 B88 B88 B89 B89 B89 B89 B89 B89 B99			FORE	EIGN PATE	NT DOCUMENTS					
B85 B86 B87 B88 C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).			DOCUMENT NUMBER	DATE	COUNTRY	CLASS	CLASS	Subclass	TRANS	LATN
B86 B87 OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).								yes	no	
B88 OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185" Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		B85						<u> </u>		
OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.) C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		B86								
C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		B87						ļ		
C64 Tzahar, E., et al., "Bivalence of of EGF-like ligands drives the ErbB signalling network," EMBO Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		B88				<u> </u>				
Journal 16(16):4938-4950 (1997). C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).			OTHER ART (Inclu	ide Author,	Title, Date, Pertinent Pa	ges, etc.)				
C65 Wada et al., "Intermolecular Association of the p185 ^{neu} Protein and EGF Receptor Modulates EGF Receptor Function," Cell 61:1339-1347 (1990). C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER DATE CONSIDERED EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		C64	Journal 16(16):4938-4950 (19	97).						
C66 Wen et al., "Neu Differentiation Factor: A Transmembrane Glycoprotein Containing an EGF Domain and an Immunoglobulin Homology Unit," Cell 69(3):559-572 (1992). EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		C65	Wada et al., "Intermolecular A	ssociation o	f the p185 ^{neu} Protein and E 990)	GF Recepto	r Modulate	s EGF		
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).		C66	Wen et al., "Neu Differentiation	on Factor: A	Transmembrane Glycopro	tein Contair	ing an EG	F Dom:	ain	
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).			and an immunoglobulin riomo	nogy Omi,	Cen 05(5).555-572 (1992)	,.				
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant(s).	EXAM	INER								
	EXAM throug	IINER: II	nitial if reference considered, v n if not in conformance <i>and</i> no	whether or i	not citation is in conform 1. Include copy of this fo	ance with M rm with nex	1PEP 609; ct commur	Draw ication	line n to	
			clocure Statement Section 0	PTO-1449 (Modified) [6-1])		P	AGE 2	2 of 2:	

52021238.1

	50517550 1110 AV 115 N								
FORM	Л РТО-14	49 (Modified)		ATTY. DOCKET NO.		SER	JAL NO.		
T T	CT OF D	ATENTS AND DUDI ICATIO	NC EOD	18010 720 CON12		00/10	11.644		
		ATENTS AND PUBLICATION		1 4918-720 CON2			11,544_		
Ar	PLICAN	T(S)' INFORMATION DISCL	OSURE	402E-476112US	1	+	ercuit	PL .	
		STATEMENT							
	Œ	Ise several sheets if necessary)							
	(0	oo oo oran siiceis ii needssary)		APPLICANT					
				Marcus D. Ballinger et al	1				
				FILING DATE		C <u>D</u> C	UP ART	DUT	
				July-17, 1998Feb 22,		1646		OIVII	
				July 11, 17701 CD 75,6	2021	1040			
REFER	RENCE D	ESIGNATION U.	S. PATENT	DOCUMENTS					
CVALOR			T			Ī			Date
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	ss	Subclass	If	
	A221	 _	 					Appli	opriate
	A222							 	
	A223		 		 				
	A224		 		ļ			<u> </u>	
	A225		ļ.————						
			<u> </u>						
	A226								
	A228					-		 	
	A229								
	A230	<u> </u>	<u>ll</u>					<u> </u>	
		FORF	ICN PATEN	NT DOCUMENTS					
	T	TORE	I	T BOCOMENTS		1			
EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS		Subclass	TRANSLATN	
INTIAL					02110	~		yes	no
	B89	 				\dashv		yes	110
	B90					-			
	B91	 	 						
	B92					\dashv			
	D92	OTTAND A DOLLAR	<u> </u>						
	0.0			itle, Date, Pertinent Page	<u> </u>				
	C67	Wen et al., "Structural and Fun	•		eu Diffe	erent	iation Fact	ors,"	
	060	Molecular & Cellular Biology							
	C68	Zhang et al., "Neuregulin-3 (N			otein th	at bi	nds and ac	ctivates	5
	C(0	ErbB4," Proc. Natl. Acad. Sci.				3.6.4	TT(E) 1.1 T	TED.	
	C69	Zrihan-Licht et al., "Associatio							
	<u> </u>	2/ErbB-2 in Breast Cancer Cell	is, Journal o	f Biological Chemistry 2/2	(3):185	0-18	63 (1997)		
EXAM				DATE CONSIDERED					
		nitial if reference considered, w							
_		if not in conformance and not	considered.	Include copy of this form	n with 1	next	communi	cation	to
Applica	ant(s).								

PAGE 23 of 23

52021238.1